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L7: Entry 1 of 3

File: USPT

Nov 14, 2000

US-PAT-NO: 6146635

DOCUMENT-IDENTIFIER: US 6146635 A

TITLE: System for the expression of heterologous antigens as fusion proteins

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC
Draw	Desc	Image									

☐ 2. Document ID: US 5286484 A

L7: Entry 2 of 3

File: USPT

Feb 15, 1994

US-PAT-NO: 5286484

DOCUMENT-IDENTIFIER: US 5286484 A

TITLE: Nucleotide sequence coding for an outer membrane protein from Neisseria meningitidis and use of said protein in vaccine preparations

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC
Draw	Desc	Image									

☐ 3. Document ID: WO 9726359 A1 ES 2157060 T3 AU 9715396 A EP 816506 A1 BR 9704641 A HU 9800730 A2 CZ 9702910 A3 MX 9707071 A1 JP 11503617 W KR 98703043 A AU 722317 B US 6146635 A EP 816506 B1 DE 69703813 E

L7: Entry 3 of 3

File: DWPT

Jul 24, 1997

DERWENT-ACC-NO: 1997-402193

DERWENT-WEEK: 200149

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TITLE: Fusion protein for use as immunogen in vaccines - contains stabilising peptide derived from N-terminal 47 amino acids of *Nisseria meningitidis* P64k antigen

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC
Draw Desc	Image										

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Terms	Documents
P64K same (N or amino) adj2 termin\$	3

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Terms	Documents
P64K same (N or amino) adj2 termin\$	3

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L7

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result set

*DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR*

<u>L7</u>	P64K same (N or amino) adj2 termin\$	3	<u>L7</u>
<u>L6</u>	TAB13	2	<u>L6</u>
<u>L5</u>	P64K adj 47	1	<u>L5</u>
<u>L4</u>	PM83	3	<u>L4</u>
<u>L3</u>	448307	13	<u>L3</u>
<u>L2</u>	448 adj 30 adj 7	0	<u>L2</u>
<u>L1</u>	448 adj2 30 adj2 7	0	<u>L1</u>

END OF SEARCH HISTORY

**WEST****End of Result Set**

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L7: Entry 3 of 3

File: DWPI

Jul 24, 1997

DERWENT-ACC-NO: 1997-402193

DERWENT-WEEK: 200149

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TITLE: Fusion protein for use as immunogen in vaccines - contains stabilising peptide derived from N-terminal 47 amino acids of Nisseria meningitidis P64k antigen

INVENTOR: ALVAREZ ACOSTA, A; CARPIO MUOZ, E L ; DUARTE CANO, C A ; GOMEZ RODRIGUEZ, C E ; GUILLEN NIETO, G E ; LEAL ANGULO, M ; MARTIN DUNN, A M ; NAZABAL GALVEZ, C ; QUINTANA VAZQUEZ, D ; SILVA RODRIGEZ, R C ; ACOSTA, A A ; ANGULO, M D J L ; CANO, C A D ; DUNN, A M M ; GALVEZ, C N ; MUNOZ, E L C ; NIETO, G E G ; RODRIGUEZ, C E G ; RODRIGUEZ, R D L C S ; VAZQUEZ, D Q ; ALVAREZ, A A C ; CARPIO, M E L ; DE JESUS LEAL, A M ; DE LA CARIDAD SILVA, R R ; DUARTE, C C A ; GOMEZ, R C E ; GUILLEN, N G E ; MARTIN, D A M ; NAZABAL, G C ; QUINTANA, V D ; CARPIO MUNOZ, E L ; LEAL ANGULO, M D J ; NAZABAL GALVEZ, C A ; SILVA RODRIGEZ, R D L C ; DE JESUS LEAL ANGULO, M ; DE LA CARIDAD SILVA RODRIGUEZ, ; DE LA CARIDID SIVA RODRIGUEZ, ; MUNOZ, L E C ; NIETO, E G G ; RODRIQUEZ, C E G

## PATENT-ASSIGNEE:

ASSIGNEE

CODE

CENT ING GENETICA &amp; BIOTECNOLOGIA

INGGN

PRIORITY-DATA: 1996CU-0000010 (January 17, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9726359 A1	July 24, 1997	S	049	C12N015/62
ES 2157060 T3	August 1, 2001		000	C12N015/62
AU 9715396 A	August 11, 1997		000	C12N015/62
EP 816506 A1	January 7, 1998	E	025	C12N015/62
BR 9704641 A	June 9, 1998		000	C12N015/62
HU 9800730 A2	July 28, 1998		000	C12N015/62
CZ 9702910 A3	November 11, 1998		000	C12N015/62
MX 9707071 A1	November 1, 1997		000	C12N015/62
JP 11503617 W	March 30, 1999		043	C12N015/02
KR 98703043 A	September 5, 1998		000	C12N015/62
AU 722317 B	July 27, 2000		000	C12N015/62
US 6146635 A	November 14, 2000		000	A61K039/00
EP 816506 B1	January 3, 2001	E	000	C12N015/62
DE 69703813 E	February 8, 2001		000	C12N015/62

DESIGNATED-STATES: AU BR CA CN CZ HU IL JP KR MX SI US AT BE CH DE DK EA ES FI FR GB GR  
IE IT LU MC NL PT SE AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE AT BE CH DE DK ES  
FI FR GB GR IE IT LI LU MC NL PT SE

CITED-DOCUMENTS:2.Jnl.Ref; EP 474313 ; WO 9014431

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9726359A1	January 17, 1997	1997WO-CU00001	
ES 2157060T3	January 17, 1997	1997EP-0901516	
ES 2157060T3		EP 816506	Based on
AU 9715396A	January 17, 1997	1997AU-0015396	
AU 9715396A		WO 9726359	Based on
EP 816506A1	January 17, 1997	1997EP-0901516	
EP 816506A1	January 17, 1997	1997WO-CU00001	
EP 816506A1		WO 9726359	Based on
BR 9704641A	January 17, 1997	1997BR-0004641	
BR 9704641A	January 17, 1997	1997WO-CU00001	
BR 9704641A		WO 9726359	Based on
HU 9800730A2	January 17, 1997	1997WO-CU00001	
HU 9800730A2	January 17, 1997	1998HU-0000730	
HU 9800730A2		WO 9726359	Based on
CZ 9702910A3	January 17, 1997	1997CZ-0002910	
CZ 9702910A3	January 17, 1997	1997WO-CU00001	
CZ 9702910A3		WO 9726359	Based on
MX 9707071A1	September 17, 1997	1997MX-0007071	
JP 11503617W	January 17, 1997	1997JP-0525564	
JP 11503617W	January 17, 1997	1997WO-CU00001	
JP 11503617W		WO 9726359	Based on
KR 98703043A	January 17, 1997	1997WO-CU00001	
KR 98703043A	September 13, 1997	1997KR-0706451	
KR 98703043A		WO 9726359	Based on
AU 722317B	January 17, 1997	1997AU-0015396	
AU 722317B		AU 9715396	Previous Publ.
AU 722317B		WO 9726359	Based on
US 6146635A	January 17, 1997	1997WO-CU00001	
US 6146635A	September 16, 1997	1997US-0930917	
US 6146635A		WO 9726359	Based on
EP 816506B1	January 17, 1997	1997EP-0901516	
EP 816506B1	January 17, 1997	1997WO-CU00001	
EP 816506B1		WO 9726359	Based on
DE 69703813E	January 17, 1997	1997DE-0603813	
DE 69703813E	January 17, 1997	1997EP-0901516	
DE 69703813E	January 17, 1997	1997WO-CU00001	
DE 69703813E		EP 816506	Based on
DE 69703813E		WO 9726359	Based on

INT-CL (IPC): A61 K 39/00; A61 K 39/02; A61 K 39/095; A61 K 39/21; C07 K 1/22; C07 K 14/16; C07 K

14/22; C07 K 16/12; C07 K 19/00; C12 N 1/21; C12 N 1:21; C12 N 15/02; C12 N 15/31; C12 N 15/48; C12 N 15/62; C12 N 15/70; C12 P 21/02; C12 P 21/08; G01 N 33/569; C12 N 1/21; C12 R 1:19; C12 N 1/21; C12 R 1:19; C12 P 21/02; C12 R 1:19; C12 N 1/21; C12 R 1:19

ABSTRACTED-PUB-NO: EP 816506B

BASIC-ABSTRACT:

A new fusion protein consists of a stabilising peptide (I) derived from the first 47 N-terminal amino acids of the P64k antigen of *Nisseria meningitidis* B:4:P1.15, fused to a heterologous protein.

USE - The expression vectors are useful for the expression of immunogenic proteins intended for use in vaccines plasmids pM-80 and pM-82 express the *N meningitidis* outer membrane proteins Opc(5c) and PorA, respectively, the pTAB4 and pTAB9 vectors are for expressing multiple epitope-containing polypeptides which include a variety of copies of the central region of HIV-1 gp120 V3 variable region. The fusion proteins can be used in vaccines for humans and animals.

ADVANTAGE - The stabilising peptide (I) is derived from a sequence which is homologous to part of the lipoyl domain of dihydrolipoamide S-acetyltransferase, but lacks the Lys48 residue, i.e. the site of post-translational lipoylation. Fusion proteins containing (I) can be produced at high levels in inclusion bodies and the presence of (I) facilitates purification and immunodetection. The absence of lipoylation makes the fusion proteins suitable for use in human vaccines, as the likelihood of autoimmune reaction in patients having antibodies against lipoic acid (e.g. in primary biliary cirrhosis) is reduced. Expression levels for the four specific plasmids were comparable to those using part of human interleukin-2 as stabilising peptide, but the expressed proteins can be used without first having to remove (I).

ABSTRACTED-PUB-NO:

US 6146635A

EQUIVALENT-ABSTRACTS:

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WO 9726359A

CHOSEN-DRAWING: Dwg.0/12

TITLE-TERMS: FUSE PROTEIN IMMUNOGENIC VACCINE CONTAIN STABILISED PEPTIDE  
DERIVATIVE N TERMINAL AMINO ACID MENINGITIDIS ANTIGEN

DERWENT-CLASS: B04 C06 D16

CPI-CODES: B04-E08; C04-E08; B04-F10A3; C04-F10A3; B04-F10A3E; C04-F10A3E; B04-G21; C04-G21;  
B04-N04; C04-N04; B14-S11; C14-S11; D05-H07; D05-H09; D05-H11A; D05-H12E; D05-H14A1;  
D05-H17C;

CHEMICAL-CODES:

Chemical Indexing M1 \*01\*  
Fragmentation Code  
M421 M423 M710 M903 N135 Q233 V270 V280 V754

Chemical Indexing M1 \*02\*  
Fragmentation Code  
M423 M710 M903 Q233 V600 V611

Chemical Indexing M1 \*03\*  
Fragmentation Code  
M423 M710 M903 N135 Q233 V753

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1997-129674